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TEKNIK ALETLER SANAYI VE TICARET A.S.
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Rev.04

CABLE GLANDS TYPE FOR CIRCULAR CABLES EBU (OCTANS) AND EBS (VELA)
CABLE GLANDS TYPE FOR FLAT CABLES EBU (axb) AND EBS (axb)

SAFETY, MAINTENENCE AND MOUNTING INSTRUCTIONS

CERTIFICATE

BMD EB..... Ex CE 0722 II 2 GD
Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db
IP66/68
IMQ 13 ATEX 018X
IECEx IMQ 13.0006X

BMD EB.....(axb) Ex CE 0722 II 2 GD
Ex e IIC Gb Ex tb IIIC Db
IP66/68
IMQ 13 ATEX 018X
IECEx IMQ 13.0006X

APPLICABLE CODES

EN/IEC 60079-0	EN/IEC 60079-7
EN/IEC 60079-1	EN/IEC 60079-31
EN/IEC 60529	ATEX DIRECTIVE 2014/34/EU

TEMPERATURE OF INSTALLATION

In execution Ex d, Ex e, Ex tb
from -40°C to +80°C with Neoprene sealing ring
from -60°C to +80°C with Silicon sealing ring

In execution Ex e, Ex tb
from -40°C to +80°C with Neoprene sealing ring
from -60°C to +140°C with Silicon sealing ring

EU DECLERATION OF CONFORMITY

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Bimed Teknik Aletler San. ve Tic. A.Ş.
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declares that the products designed to be placed on the market for use in the explosive atmospheres descrived below;

Cable Gland Types: **EBU, EBS, EBLS, EBLQ, EBMC, EBMS, EBLN**

are in execution II 2GD Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db IP66/68
with certificate number, **IMQ 13 ATEX 018X**

Cable Gland Types: **EBU(axb), EBS(axb), EBLS(axb), EBLQ(axb), EBMC(axb), EBMS(axb), EBLN(axb)**

are in execution II 2 GD Ex e IIC Gb Ex t IIIC Db IP66/68
with certificate number, **IMQ 13 ATEX 018X**

The dispositions applied of them directive; ATEX 2014/34/EU

The harmonized standards applied:

EN 60079-0:2012	EN 60079-7:2007
EN 60079-1:2014	EN 60079-31:2014

The complience of the equipment is not influced by the modifications introduced by harmonized standards EN 60079-7:2015

These products has been designed, manufactured and controlled within the guidelines of a quality insurance system which is certificated to be conform with ISO 9001 and EN ISO 80079-34.

Notified body CESI 0722

Istanbul, 20.04.2016

General Manager
Yakup Gülnihal

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⚠ SAFETY AND ASSEMBLING INSTRUCTIONS

-Qualified personnel in compliance with the nation laws shall carry out the maintanence in accordance with EN/IEC 60079-17 and installation in accordance with EN/IEC 60079-14.
-Changes to products are not allowed.
-Only Bimed spare parts must be used.
-Everyday and extraordinary maintenance operations must be carried out only by qualified personnel after approval from expert technicians.
-The maintenance operations must be carried out only after the engine has been cut off from mains or from the related electrical appliance.
-The following instructions must be strictly followed in order to get a correct installation.
-The national safety rules and accident prevention regulations, must be strictly respected.
-In case of ambient temperature is below -30°C, austenitic steels must be used according to EN10213-3 (Brass or Stainless steel AISI 316).
-The clamping of the cables must be realised outside of enclosure by appropriate toque values to guarantee the mechanical characteristics.
-The cable glands can be used with Ex i circuits.
-The cable glands are only suitable for fixed installations. Cables shall be effectively clamped to prevent pulling or twisting.
-The cable gland installation shall be done according to safety manufacturer instructions to maintain degree of protection.
-Cable gland installation shall be done taking into account the temperature range declared for cable glands in relation to protection mode execution, versus the ambient temperature proper of installation.
-When cable glands are installed with polyamide insert BDPX..., mechanical risk have to taken into account, depending on cable gland and insert tap. The upper operating temperature is limited to 70°C. When insert tap is removed in order to install to proper cable, the integrity of sealing rings have to be checked, in order to guarantee the correct tightness. If necessary, sealing rings have to be replaced with new ones. Precautions shall be taken in order to guarentee protection against risk of mechanical demage is provided, when insert taps are suitable for low mechanical risk (4J) only.
-Cable glands for non-circular cables shall be fitted with proper cables, suitable for sealing ring, according to manufacturer's instruction.
-The certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in the first page of the manuel.
-The certificate does not cover hazards coming from environmental conditions different from those clearly and precisely indicated in clause 1 of EN 60079-0.
-Flat washer material should be same material with the inner sealing of the gland.Service temperature of the gland is related to the material of the sealing ring but can additionally be limited by the material of the flat washer/oring/ accessories. Material temperature limitations are:
Chloroprene (-40°C +100°C), Silicone (-60°C +180°C), EPDM (-40°C +110°C), Klingersil (fiber type) (-50°C +130°C), PA (-50°C +60°C)
-The use of these materials has to be taken in account in determination of upper and lower service temperature of the glands.

IP protection for Non Threaded enclosure applications (Except for Ex d enclosures)

Metric Threads	
Thread	Hole Diameter (min. - max. mm)
M8 x 1.25	Ø8,0 - 8,2
M12 x 1.5	Ø12,0 - 12,2
M16 x 1.5	Ø16,0 - 16,2
M20 x 1.5	Ø20,0 - 20,2
M25 x 1.5	Ø25,0 - 25,2
M32 x 1.5	Ø32,0 - 32,3
M40 x 1.5	Ø40,0 - 40,3
M50 x 1.5	Ø50,0 - 50,3
M63 x 1.5	Ø63,0 - 63,3
M75 x 1.5	Ø75,0 - 75,3
M90 x 1.5	Ø90,0 - 90,3
M100 x 1.5	Ø100,0 - 100,3
M110 x 1.5	Ø110,0 - 110,3
M115 x 2.0	Ø115,0 - 115,3
M130 x 2.0	Ø130,0 - 130,3

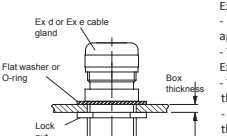
G Threads (GAS UNI ISO 228/1)	
Thread	Hole Diameter (min. - max. mm)
G 1/4"	Ø13,2 - 13,4
G 3/8"	Ø16,6 - 16,8
G 1/2"	Ø21,0 - 21,2
G 3/4"	Ø26,4 - 26,6
G 1"	Ø33,3 - 33,6
G 1 1/4"	Ø41,9 - 42,2
G 1 1/2"	Ø47,8 - 48,1
G 2"	Ø59,6 - 59,9
G 2 1/2"	Ø75,2 - 75,5
G 3"	Ø87,9 - 88,2
G 4"	Ø113,1 - 113,4
G 5"	Ø138,5 - 138,8

PG Threads	
Thread	Hole Diameter (min. - max. mm)
PG 7	Ø12,5 - 12,7
PG 9	Ø15,2 - 15,4
PG 11	Ø18,6 - 18,8
PG 13,5	Ø20,4 - 20,6
PG 16	Ø22,5 - 22,7
PG 21	Ø28,3 - 28,5
PG 29	Ø37,0 - 37,3
PG 36	Ø47,0 - 47,3
PG 42	Ø54,0 - 54,3
PG 48	Ø59,3 - 59,6

Recomended Hole Diameters For Non Threaded enclosure applications in relation with the used thread types are shown above. For for more detailed information please refer to CA4-IP.

For non-threaded enclosures it is recomended to use flat washer,between the gland body and enclosure. The recomended wall thickness is 1,5 mm for non threaded enclosures.
For non-threaded enclosures, in case of enclosure wall thickness is equal or lower than 1,5 mm, Bimed flat washer should be used. Oring can stay in the channel if it is necessary. During the assembly it is recommended to rotate the locknut. If the assembly needs to be done by rotating the gland, then oring should be preferred.

IP protection for cylindrical threaded joint

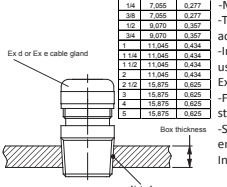


Ex db execution :
- Min 5 threads must be engaged for threaded enclosure applications.
- The min engaged thread depth must be at least 8 mm.

Ex eb and Ex tb execution :
- The recomended wall thickness is min 1,5 mm for non threaded enclosures and flat washer should be used.
- For threaded enclosures the recomended min wall thickness must be equal to the thickness of the relevant lock nut.

IP protection for tapered threaded joint

NPT"	Minimum Engaged Thread Depth (mm)	(inch)
1/4	7,055	0,277
3/8	7,055	0,277
1/2	9,070	0,357
3/4	9,070	0,357
1	11,045	0,434
1 1/4	11,045	0,434
1 1/2	11,045	0,434
2	11,045	0,434
2 1/2	15,875	0,625
3	15,875	0,625
4	15,875	0,625
5	15,875	0,625



Ex db execution:
-Minimum number of engaged threads must be at least 5.
-The min effective engaged thread depth must be related according to the attached table with used thread size.
-In case of a sealing agent Loctite 577 or equivalent is used and the metallic continuity must be guarenteed.

Ex eb and Ex tb execution:
-For Ex eb applications, please refer to NPT ANSI B1.20.1 standard.
-Sealing agent Loctite 577 or equivalent should be used to ensure the IP66/68 degree of protection.
In any case, the metallic continuity must be guarenteed.

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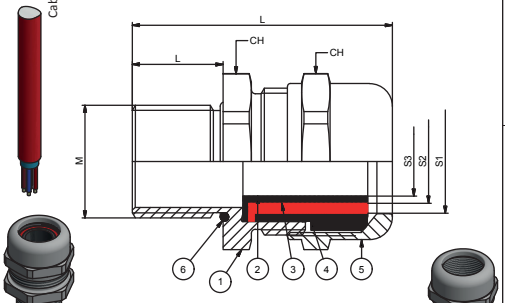
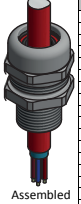
Composition of cable gland type EBU



Octans
Cable gland

6	O-RING
5	CAP (E)
4	OUTER SEAL (D)
3	INNER SEAL (C)
2	INNER SEAL (B)
1	BODY (A)


Assembled
cable

Model	Min-max cable Ø mm
EBU 0XS M.	2-4
EBU 0S ..	4-8
EBU01S..	3-9
EBU 01..	4-12
EBU 1S..	3-9
EBU 1..	4-12
EBU 12..	10-16
EBU 2S..	4-12
EBU 2..	10-18
EBU 23..	14-20
EBU 3S..	10-18
EBU 3..	14-24
EBU 34 M.	22-28
EBU 34 N.	*22-28*
EBU 4S..	14-24
EBU 4..	22-32
EBU 45..	26-34
EBU 5S..	22-32
EBU 5..	26-35
EBU 56 M.	35-44
EBU 56 N.	*35-44*
EBU 6S..	26-35

Model	Min-max cable Ø mm
EBU 6..	35-45
EBU 67 M.	46-56
EBU 67 N.	*46-56*
EBU 7S..	35-45
EBU 7..	46-62
EBU 78 M.	60-69
EBU 78 N.	*60-64*
EBU 8S..	46-62
EBU 8..	60-75
EBU 810 M.	75-82
EBU 810 N.	*75-82*
EBU 10S..	60-75
EBU 10..	75-85
EBU 11..	85-95
EBU 115 XS..	75-85
EBU 115 S..	85-95
EBU 115 M.	95-105
EBU 115 N.	*95-101*
EBU 13 M..	105-115
EBU 13 N..	*95-105*
EBU 130 N.	105-115

OCTANS (EBU) CABLE GLAND MOUNTING INSTRUCTION

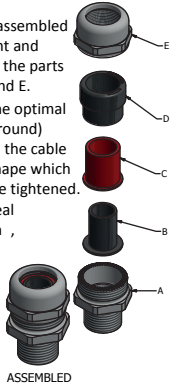
SEALING RING COMBINATIONS


Triple Seal Combination
Double Seal Combination
Single Seal Combination

STEP-1

1- Hold the assembled gland straight and disassemble the parts as A,B,C,D and E.

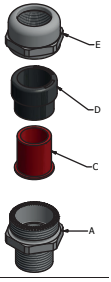
2- Choose the optimal seal (flat or round) according to the cable diameter, shape which is going to be tightened. (For triple seal combination , it is enough to disassamble only part E.)



ASSEMBLED GLAND

STEP-2

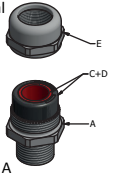
3- For double seal combination , part B is an obstacle to tighten the desired cable size. First take out part B to complete the seal combination.



STEP-3

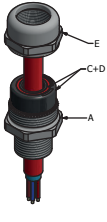
4- Assemble the seal combination inside part A. Mount (parts A,C,D) on the enclosure with sufficient torque value.

5- Then mount part A and E engaged one or two threads for inserting cabl inside the gland easier.



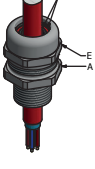
STEP-4

6- Insert the cable inside the gland for installation.



STEP-5

7- Tighten part E to parts A,C,D sufficeint torque values .



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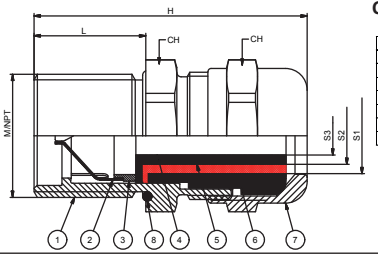


Composition of cable gland type EBS

8	O-RING
7	CAP (E)
6	OUTER SEAL (D)
5	INNER SEAL (C)
4	INNER SEAL (B)
3	PRESSURE RING (F)
2	SPRING (G)
1	BODY (A)

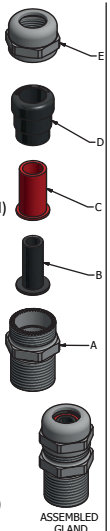
SEALING RING COMBINATIONS

Model	Min-max cable Ø mm
EBS 01S.	4-8
EBS 01..	4-8
EBS 1..	4-12
EBS 2..	10-18
EBS 3..	14-24
EBS 4..	22-32
EBS 5..	26-35
EBS 6..	35-45
EBS 7..	46-62
EBS 8..	60-75
EBS 10..	75-85
EBS 11..	85-95

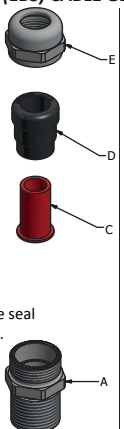
VELA (EBS) CABLE GLAND MOUNTING INSTRUCTION

STEP-1 :
1- Hold the assembled gland straight and disassemble the parts as A,B,C,D and E.

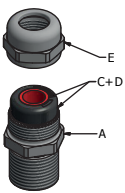
2- Choose the optimal seal (flat or round) according to the cable diameter which is going to be tightened (For triple seal combination it is enough to disassamble only part E.) (**Pressure ring and spring are inside part A.)

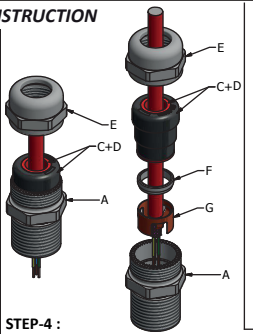


STEP-2 :
3- For double seal combination part B is an obstacle to tighten the desired cable size. First take out part B to complete the seal combination.



STEP-3:
4- Assemble the seal combination inside part A. Mount (parts A,C,D) on the enclosure with sufficient torque value.
5- Then mount part A and E engaged one or two threads for inserting cable inside the gland easier.





STEP-4 :
6- Insert the cable inside the gland for installation.

7- Place the armours inside the spring(G). Before the installation cut the excess parts of cable sheath and armour.

Cable contact with spring

STEP-5 :
8- Tighten part E to parts A,C,D sufficeint torque values .